	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
1	BRS	L1	24257	macrophage	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:47			0
2	BRS	L2	363	th2 adj response	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:47			0
3	BRS	L3	1339	reductive adj glutathione or GSH	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:48			0
4	BRS	L4	150	il-6 same il-12 same NO	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:49			0
5	BRS	L5	0	1 same 2 same 3 same 4	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:49			0
6	BRS	L6	0	1 same 2 same 3	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:50			0
7	BRS	L7	2559	cellular adj immune adj response	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:50			0
8	BRS	L8	6	1 same 7 same th2	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:58			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
9	BRS	L9	109	hamuro adj junji.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:59			0
10	BRS	L10	11	murata adj yukie.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 17:59			0
11	BRS	L11	2	(9 or 10) and 8	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 18:00			0
12	BRS	L12	2927	((cachectic or cachexia) same (cancer or diabetes or (gastrointestinal adj inflammatory adj disease) or (chronic adj rheumatoid adj arthritis) or hepatitis or (hepatic adj cirrhosis) or (hypersensitive adj interstitial adj pneumonia) or (pulmonary adj fibrosis) or (autoimmune adj inflammatory adj disease)))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 18:02			0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition	Errors
13	BRS	L13	0	12 same 2 same 3	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 18:02			0
14	BRS	L14	0	12 same 8	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/02/19 18:03			0

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(FILE 'HOME' ENTERED AT 18:05:58 ON 19 FEB 2003)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
18:06:20 ON 19 FEB 2003
L1 590525 S MACROPHAGE
L2 47187 S TH2
L3 17 S REDUCTIVE GLUTATHIONE
L4 67900 S GSH
L5 67913 S L3 OR L4
L6 26 S L1 (P) L2 (P)L5
L7 9 DUPLICATE REMOVE L6 (17 DUPLICATES REMOVED)
L8 21071 S CELLULAR IMMUNE RESPONSE
L9 30075 S TH1 (P) TH2
L10 0 S L8 (P) L9 (P) L5
L11 418585 S (GASTROINTESTINAL INFLAMMATORY DISEASE) OR (CHRONIC RHEUMATOI
L12 0 S L7 (P) L11

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FILE 'MEDLINE' ENTERED AT 18:06:20 ON 19 FEB 2003

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FILE 'AGRICOLA' ENTERED AT 18:06:20 ON 19 FEB 2003

=> s macrophage
L1 590525 MACROPHAGE

=> s Th2
L2 47187 TH2

=> s reductive glutathione
L3 17 REDUCTIVE GLUTATHIONE

=> s GSH
L4 67900 GSH

=> s l3 or l4
L5 67913 L3 OR L4

=> s l1 (p) l2 (p)l5
L6 26 L1 (P) L2 (P) L5

=> duplicate remove l6
DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L6
L7 9 DUPLICATE REMOVE L6 (17 DUPLICATES REMOVED)

=> d l7 1-9 ibib abs

L7 ANSWER 1 OF 9 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002147939 MEDLINE
DOCUMENT NUMBER: 21831033 PubMed ID: 11841834
TITLE: Intracellular thiol redox status of macrophages directs the Th1 skewing in thioredoxin transgenic mice during aging.
AUTHOR: Murata Yukie; Amao Michiko; Yoneda Junya; Hamuro Junji
CORPORATE SOURCE: Basic Research Institute, Ajinomoto Central Research Laboratories, Ajinomoto Co. Inc., 1-1 Suzuki-cho, Kawasaki-ku, 210-0861, Kawasaki, Japan.
SOURCE: MOLECULAR IMMUNOLOGY, (2002 Feb) 38 (10) 747-57.
Journal code: 7905289. ISSN: 0161-5890.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200204
ENTRY DATE: Entered STN: 20020308
Last Updated on STN: 20020410
Entered Medline: 20020409
AB We have been proposing the functional distinction of two classes of ***macrophages*** (Mp), namely the reductive ***macrophages*** (RMp) with high intracellular content of glutathione (***GSH***) and the oxidative ***macrophages*** (OMp) with reduced content. At the same time we have been investigating the variation of RMp/OMp balance during aging of mice, especially in relation to the age related onset of autoimmune diseases. In this paper we have investigated the Th1/

Th2 balance of thioredoxin (TRX) transgenic (Tg) mice with prolonged life longevity, during aging in the context of the intracellular redox status of Mp, which has been hypothesized to be crucial in regulating the Th1/ ***Th2*** balance. It was confirmed that peritoneal resident Mp of Tg mice showed the higher ***GSH*** /GSSG ratios compared with that of age matched wild type (WT) mice. The predominance of RMp was associated with the sustained maintenance of Th1 prevalence during aging until 2 years in Tg mice, whereas WT littermates showed rapid polarization to ***Th2*** around the age of 8 months. The Tg mice showed elevation of IFN-gamma and reduction of IL-10 with moderate change of IL-4 produced by CD4+ T cells. The WT mice showed inverse changes of IFN-gamma/IL-4 and IFN-gamma/IL-10 ratios during aging. In addition, IL-10 production by Mp was dramatically reduced in aged Tg mice. Thus, TRX Tg mice may be useful to investigate the contribution of the anti-oxidant defense mechanism during aging accompanied with increasing oxidative stress.

L7 ANSWER 2 OF 9 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002269797 MEDLINE
DOCUMENT NUMBER: 22004751 PubMed ID: 12013506
TITLE: The skewing to Th1 induced by lentinan is directed through the distinctive cytokine production by macrophages with elevated intracellular glutathione content.
AUTHOR: Murata Yukie; Shimamura Toshiro; Tagami Tomoyuki; Takatsuki Fumihiko; Hamuro Junji
CORPORATE SOURCE: Basic Research Institute, Ajinomoto Central Research Laboratories, Ajinomoto Co. Inc., Kawasaki, Japan.
SOURCE: Int Immunopharmacol, (2002 Apr) 2 (5) 673-89.
Journal code: 100965259. ISSN: 1567-5769.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200211
ENTRY DATE: Entered STN: 20020516
Last Updated on STN: 20021211
Entered Medline: 20021122

AB In vivo lentinan (LNT)-elicited peritoneal ***macrophages*** (Mps) showed the reduced release of prostaglandins (PGs), IL-10 and IL-6, while it endowed Mps with the elevated capability to produce IL-12 and nitric oxide (NO) upon in vitro triggering, due to the elevated intracellular glutathione (***GSH***) content in Mps. Deprivation of intracellular ***GSH*** completely ablated the production of IL-12. Conversely, lipopolysaccharide (LPS) induced peritoneal Mps with the reduced intracellular ***GSH*** content and the reciprocal profile of mediator production. Mps with the elevated intracelluar ***GSH*** is arbitrarily termed as reductive Mp (RMp) and that with reduced amount as oxidative Mp (OMp). OMp was converted to RMp when ***GSH*** was replenished with glutathione monoethylester (***GSH*** -OEt). The IL-2 administration in combination with LNT exerted the synergistic induction of RMp, resulting in synergistic augmentation of IL-12, NO and reduction of IL-6 production. It was also confirmed that CD4+T cells derived of LNT-administered mice showed augmented IFN-gamma and reduced IL-4 production upon in vitro anti-CD3 stimulation. Taken together it is concluded that skewing of Th1/ ***Th2*** balance to Th1 by a beta-(1-3)-glucan, LNT, is directed through the distinctive production of IL-12 versus IL-6, IL-10 and prostaglandin E2 (PGE2) by Mps, depending on intracellular ***GSH*** redox status. To the efficient tumor immunotherapy, it may be one of the critical elements to induce a reductive form of Mps in tumor stromal tissues to maintain Th1 response.

L7 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
ACCESSION NUMBER: 2002:478908 CAPLUS
DOCUMENT NUMBER: 137:91884
TITLE: The conversion of redox status of peritoneal macrophages during pathological progression of spontaneous inflammatory bowel disease in Janus family tyrosine kinase 3-/- and IL-2 receptor .gamma.-/- mice
AUTHOR(S): Murata, Yukie; Yamashita, Akira; Saito, Takashi; Sugamura, Kazuo; Hamuro, Junji
CORPORATE SOURCE: Basic Research Laboratories, Ajinomoto Co. Inc., Kawasaki, 210-0861, Japan

SOURCE: International Immunology (2002), 14(6), 62[redacted]636
CODEN: IN[redacted]N; ISSN: 0953-8178

PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The distinct thiol redox status in ***macrophages*** , either elevated or reduced intracellular content of glutathione (***GSH***), was confirmed during aging in IL-2 receptor (IL-2R).gamma. and Janus family tyrosine kinase (JAK)3 gene-disrupted mice. Oxidative ***macrophages*** (OMp) with reduced ***GSH*** dominated initially at a younger age in both mice. OMp-dominated JAK3 or IL-2R.gamma. chain-deficient mice showed shortened life longevity compared with wild-type littermates. These mice elicited spontaneous onsets of inflammatory bowel disease (IBD)-like symptoms accompanied with the conversion of the redox status of ***macrophages*** to reductive phenotypes with elevated intracellular ***GSH*** . Conversion of OMp to the reductive phenotype by ***GSH*** monoethyl ester or by a .beta.-(1-3)-glucan accelerated the disease onset, concomitant with the skewing from ***Th2*** to Th1 responses. On the contrary, N,N-diacetyl cystine dimethylester, which is capable of inducing OMp, delayed the incidence of IBD-like symptoms and improved the survival rate. This implies that the conversion of OMp/ ***Th2*** to reductive ***macrophages*** /Th1 may be crit. for the disease progression. The study of these mice may provide insight into the mechanisms underlying Crohn's disease and ulcerative colitis.

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 9 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2001272993 MEDLINE
DOCUMENT NUMBER: 21260833 PubMed ID: 11367535
TITLE: Suppression of allergic reactions by royal jelly in association with the restoration of macrophage function and the improvement of Th1/Th2 cell responses.
AUTHOR: Oka H; Emori Y; Kobayashi N; Hayashi Y; Nomoto K
CORPORATE SOURCE: Central Research Laboratories, Zeria Pharmaceutical Co., Ltd., 2512-1 Oshikiri, Kohnan-machi, Ohsato-gun, Saitama 360-0111, Japan.
SOURCE: Int Immunopharmacol, (2001 Mar) 1 (3) 521-32.
Journal code: 100965259. ISSN: 1567-5769.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200106
ENTRY DATE: Entered STN: 20010702
Last Updated on STN: 20010702
Entered Medline: 20010628

AB We studied the immunomodulatory effects of royal jelly (RJ), the principal food source of the queen honeybee. In this study, suppression of allergic reactions by RJ was investigated in DNP-KLH immunized mice (DNP-KLH mice). Oral administration of RJ (1 g/kg) to DNP-KLH mice significantly decreased the serum levels of antigen-specific Ig E and significantly inhibited DNP-KLH mediated-histamine release from mast cells, resulting in the suppression of immediate hypersensitivity reactions of ear skin. In DNP-KLH mice, IFN-gamma (Th1 cytokine) production from CD4+ T cells was suppressed and IL-4 (***Th2*** cytokine) production from CD4+ T cells was increased as compared to normal mice. On the other hand, RJ improved the balance of Th1/ ***Th2*** cell responses from ***Th2*** -dominant to Th1-dominant. RJ significantly increased ***GSH*** levels in ***macrophages*** from DNP-KLH mice. In addition, the administration of RJ to DNP-KLH mice increased IL-12 p40 mRNA expression and NO production, and decreased PG E2 production from ***macrophages*** as compared to untreated DNP-KLH mice. These results suggested that RJ suppressed antigen-specific Ig E production and histamine release from mast cells in association with the restoration of ***macrophage*** function and improvement of Th1/ ***Th2*** cell responses in DNP-KLH mice.

L7 ANSWER 5 OF 9 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 2001364628 MEDLINE
DOCUMENT NUMBER: 21315494 PubMed ID: 11422207
TITLE: Regulation of LPS induced IL-12 production by IFN-gamma and

IL-4 through intracellular glutathione status in human alveolar macrophages.

AUTHOR: Dobashi K; Aihara M; Araki T; Shimizu Y; Utsugi M; Iizuka K; Murata Y; Hamuro J; Nakazawa T; Mori M

CORPORATE SOURCE: First Department of Internal Medicine, Gunma University Faculty of Medicine, School of Medicine, Maebashi, Gunma, Japan.. dobashik@med.gunma-u.ac.jp

SOURCE: CLINICAL AND EXPERIMENTAL IMMUNOLOGY, (2001 May) 124 (2) 290-6.
Journal code: 0057202. ISSN: 0009-9104.

PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200107
ENTRY DATE: Entered STN: 20010716
Last Updated on STN: 20010716
Entered Medline: 20010712

AB Interleukin-12 (IL-12) is secreted from monocytes and ***macrophages*** ; it exerts pleiotropic effects on T cells and natural killer (NK) cells, and stimulates interferon-gamma (IFN-gamma) secretion. Glutathione tripeptide regulates the intracellular redox status and other aspects of cell physiology. We examined whether IFN-gamma and IL-4 affect the balance between intracellular reduced glutathione (***GSH***) and oxidized (GSSG) glutathione, as this may affect IL-12 production in human alveolar ***macrophages*** (AM). We used both AM from healthy non-smokers obtained by bronchoalveolar lavage and the monocytic THP-1 cell line in this study. Incubation of AM for 2 h with the ***GSH*** precursor N-acetylcysteine (NAC) increased the intracellular ***GSH*** /GSSG ratio, and enhanced lipopolysaccharide (LPS)-induced IL-12 secretion by AM. In THP-1 cells, NAC increased the ***GSH*** /GSSG ratio and the expression of LPS-induced IL-12 mRNA, whereas L-buthionine-[S,R]-sulphoximine (BSO) decreased these. NAC and BSO offset their own effects on the intracellular ***GSH*** /GSSG ratio and the expression of LPS-induced IL-12 mRNA. Furthermore, exposure of AM to the helper T cell type 1 (Th1) cytokine IFN-gamma or the helper T cell type 2 (***Th2***) cytokine IL-4 for 72 h increased and decreased the ***GSH*** /GSSG ratio, respectively. Lipopolysaccharide (LPS)-induced secretion of IL-12 in AM was enhanced by IFN-gamma but inhibited by IL-4. These results suggest that IFN-gamma and IL-4 oppositely affect the ***GSH*** /GSSG balance, which may regulate IL-12 secretion from AM in response to LPS.

L7 ANSWER 6 OF 9 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2000125168 EMBASE
TITLE: Inhibitory effect of royal jelly on allergic reactions through the regulation of Th1/Th2 cell responses.

AUTHOR: Oka H.; Emori Y.; Kobayashi N.; Hayashi Y.; Nomoto K.
CORPORATE SOURCE: Dr. Y. Hayashi, Central Research Laboratories, Zeria Pharmaceutical Co., Ltd., 2512-1 Oshikiri, Kohnan-machi, Ohsato-gun, Saitama 360-0111, Japan

SOURCE: Biotherapy, (2000) 14/2 (145-150).
Refs: 20
ISSN: 0914-2223 CODEN: BITPE

COUNTRY: Japan
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 026 Immunology, Serology and Transplantation
037 Drug Literature Index

LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese

AB We have studied the immunomodulatory effects of royal jelly (RJ), a principal food of the queen honey bee. In this paper, suppression of allergic reactions by RJ was investigated in mice immunized with DNP-KLH (DNP-KLH mice). Oral administration of RJ (1 g/kg) to DNP-KLH mice significantly decreased the serum level of IgE, and significantly inhibited DNP-KLH mediated-histamine release from mast cells. In DNP-KLH mice, IFN-.gamma. (Th1 cytokine) production was suppressed and IL-4 (***Th2*** cytokine) production was increased as compared to normal mice. On the other hand, RJ restored the balance of Th1/ ***Th2*** cell responses from a ***Th2*** dominant state to a normal state. RJ significantly increased glutathione (***GSH***) levels in ***macrophages*** from DNP-KLH mice. These results suggest that RJ restored ***GSH*** levels and Th cell responses, resulting in the

suppression of IgE production and the inhibition of mast cell degranulation in DNP-KLH mice

L7 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:277457 CAPLUS
DOCUMENT NUMBER: 130:322683
TITLE: Classification of macrophages, disease diagnosis, system and kit for the diagnosis, and screening or monitoring of pharmaceuticals for immunological disease treatment
INVENTOR(S): Hamuro, Junji; Murata, Yukie
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11118792	A2	19990430	JP 1997-303426	19971017

PRIORITY APPLN. INFO.: JP 1997-303426 19971017
AB Macrophages are classified into oxidized and reduced types having different functions, by (in)directly detg. oxidized glutathione (GSSG) and/or reduced glutathione (GSH) in the macrophages. Immunol. diseases and/or cancer are diagnosed by detg. oxidized- and/or reduced-type macrophages using reagents such as monochlorobimane. Oxidized- and/or reduced-type macrophages in body fluids or cells are detd. for screening or monitoring of pharmaceuticals, for treatment or prevention of immunol. diseases.

L7 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 6
ACCESSION NUMBER: 1999:712139 CAPLUS
DOCUMENT NUMBER: 132:221210
TITLE: The triggering and healing of tumor stromal inflammatory reactions regulated by oxidative and reductive macrophages
AUTHOR(S): Hamuro, Junji; Murata, Yukie; Suzuki, Manabu; Takatsuki, Fumihiko; Suga, Tetsuya
CORPORATE SOURCE: Basic Research Laboratories, Ajinomoto Co., Inc., Kanagawa, 210-0801, Japan
SOURCE: Gann Monograph on Cancer Research (1999), 48(Recent Advances of Human Tumor Immunology and Immunotherapy), 153-164
CODEN: GMCRDC; ISSN: 0072-0151
PUBLISHER: Japan Scientific Societies Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Pre- and post-operative administration of lentinan (LNT) in combination with interleukin-2 (IL-2) showed complete cure in murine tumor models due to synergistic augmentation of the tumor tissue stromal reaction including lymphoreticular infiltrates and the formation of reticular fibers. The cellular reactions at tumor tissues are frequently accompanied by the conversion of the reaction into an oxidative inflammatory reaction by locally produced cytokines. LNT induced ***macrophages*** (M.vphi.s) showed reduced release of prostaglandins and IL-6, while they showed elevated prodn. of IL-12, due to the increase of cellular glutathione (***GSH***). Conversely, lipopolysaccharide (LPS) induced ***macrophages*** with reduced ***GSH*** content. M.vphi.s with a high content of ***GSH*** are called reductive M.vphi.s and those with a reduced amt. oxidative M.vphi.s. Helper T cell type 1, 2 (TH1/ ***TH2***) balance is largely regulated by the balance between reductive and oxidative M.vphi.s through the balance of the prodn. of IL-12 vs. IL-6 from M.vphi.s. To keep tumor specific immune response working efficiently, it may be important to maintain the TH1 responses and the predominance of a reductive form of M.vphi. in tumor tissue stromal inflammation, in the context of tissue remodelling after extravasation and infiltration of immune cells into tumor tissues.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 9 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 96170609 EMBA
DOCUMENT NUMBER: 1996170609
TITLE: Lentinan regulates the local inflammatory cellular reaction at tumor tissues - Its relation with antitumor effects.
AUTHOR: Hamuro J.
CORPORATE SOURCE: Ajinomoto Co., Inc., Basic Research Institute, 1-1 Suzuki-cho,Kawasaki-ku, Kawasaki 210, Japan
SOURCE: Biotherapy, (1996) 10/4 (581-588).
ISSN: 0914-2223 CODEN: BITPE
COUNTRY: Japan
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 016 Cancer
026 Immunology, Serology and Transplantation
LANGUAGE: Japanese
SUMMARY LANGUAGE: English; Japanese
AB Either immunotherapy or chemotherapy requires anticachectic treatments to improve its therapeutic effects leading to life prolongation. Cachexia is mainly induced by oxidative local cellular inflammatory reactions at tumor tissues by production of PGE2, reactive oxygen intermediates and cachectic/immunosuppressive cytokines such as IL-6, IL-1, TNF and TGF-.beta.. To induce the efficient specific immunological responses to tumor antigens, it is necessary to induce cellular reactions at tumor tissues to break the dormant state (ignorance of tumor antigens by host immune systems). The induction of cellular reactions at tumor tissues is confronted frequently with the conversion of cellular reactions into oxidative inflammatory reactions via overactivation of ***macrophages*** (M.phi.) and neutrophils. Lentinan suppresses the conversion and maintain the redox state of M.phi. at the reduced state designated by the high content of the reduced form of glutathione (***GSH***). M.phi.s with the high content of ***GSH*** respond to TH1 cytokines to produce an increased amount of NO and a reduced amount of IL-6, whereas M.phi.s with decreased ***GSH*** content respond in a manner resulting in inverse effects. In the advanced stage of cancer patients, the oxidative M.phi.s are responsible for the induction of ***TH2*** cytokines responses resulting in the induction of cachexia.

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     (FILE 'HOME' ENTERED AT 18:05:58 ON 19 FEB 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     18:06:20 ON 19 FEB 2003
L1        590525 S MACROPHAGE
L2         47187 S TH2
L3            17 S REDUCTIVE GLUTATHIONE
L4         67900 S GSH
L5         67913 S L3 OR L4
L6            26 S L1 (P) L2 (P)L5
L7             9 DUPLICATE REMOVE L6 (17 DUPLICATES REMOVED)

=> s cellular immune response
L8         21071 CELLULAR IMMUNE RESPONSE

=> s th1 (p) th2
L9         30075 TH1 (P) TH2

=> s l8 (p) l9 (p) l5
L10            0 L8 (P) L9 (P) L5

=> s (gastrointestinal inflammatory disease) or (chronic rheumatoid arthritis) or hepatitis or (he
   5 FILES SEARCHED...
L11      418585 (GASTROINTESTINAL INFLAMMATORY DISEASE) OR (CHRONIC RHEUMATOID
                ARTHRITIS) OR HEPATITIS OR (HEPATIC CIRRHOSIS)

=> s l7 (p) l11
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PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L80 (P) L69'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
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FIELD CODE - 'AND' OPERATOR ASSUMED 'L82 (P) L70'
L12           0 L7 (P) L11

=> d his

     (FILE 'HOME' ENTERED AT 18:05:58 ON 19 FEB 2003)

     FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA' ENTERED AT
     18:06:20 ON 19 FEB 2003
L1        590525 S MACROPHAGE
L2         47187 S TH2
L3            17 S REDUCTIVE GLUTATHIONE
L4         67900 S GSH
L5         67913 S L3 OR L4
L6            26 S L1 (P) L2 (P)L5
L7             9 DUPLICATE REMOVE L6 (17 DUPLICATES REMOVED)
L8         21071 S CELLULAR IMMUNE RESPONSE
L9         30075 S TH1 (P) TH2
L10            0 S L8 (P) L9 (P) L5
L11       418585 S (GASTROINTESTINAL INFLAMMATORY DISEASE) OR (CHRONIC RHEUMATOI
L12            0 S L7 (P) L11

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